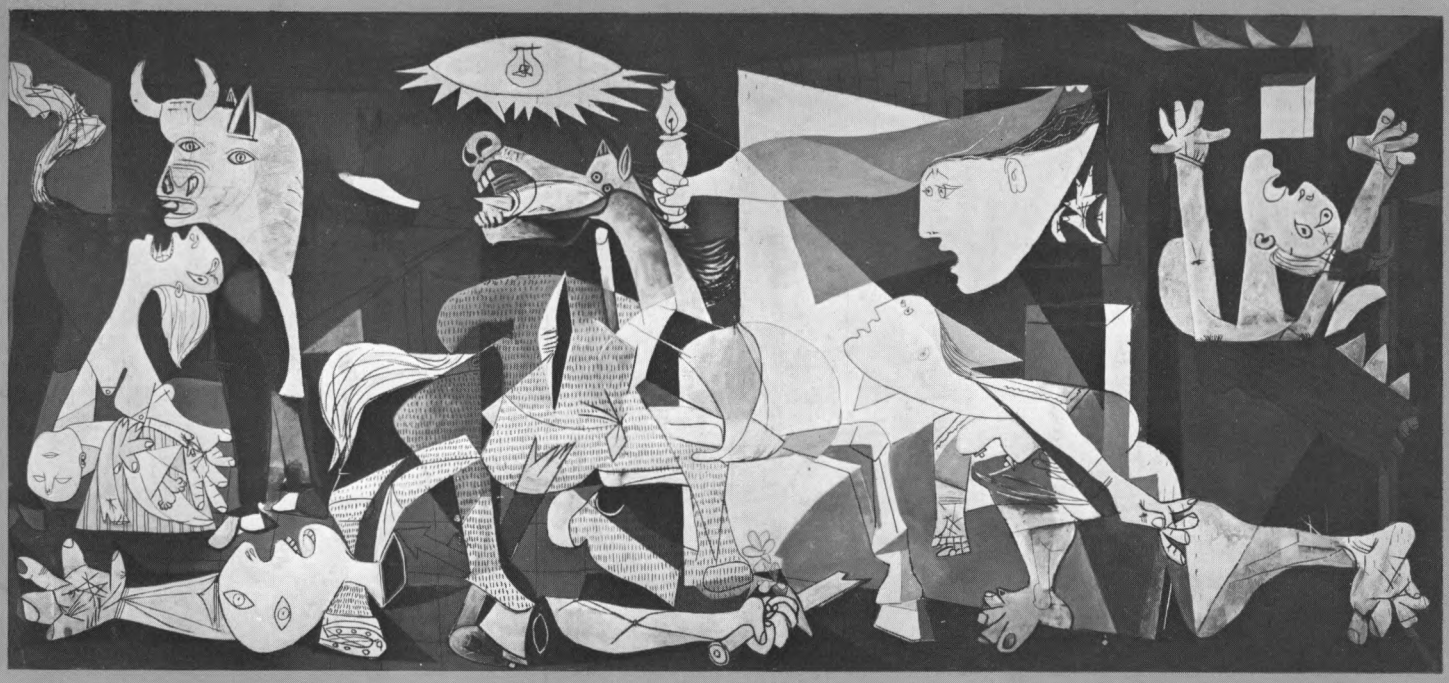
CORNELL UNIVERSITY

PEACE STUDIES PROGRAM



Occasional Papers

STRATEGIC DOCTRINE FOR A POST-SALT WORLD

by Arthur Stein

Number 4

Strategic Doctrine for a Post-SALT World

Arthur Stein

With the advent of strategic bombing and nuclear weapons arose arguments over appropriate targets, cities or military targets.[1] The argument has recently been revived as scholars have increasingly expressed disenchantment with assured destruction as a basis for deterrence. Counterforce, or some variant, as a targetting doctrine has gained new proponents.[2] It even appears that the Nixon Administration's strategic thinking contains elements of counterforce.[3]

Yet, the argument between proponents of countercity and counterforce targetting has been carried on in a vacuum, for the proponents of the various doctrines fail to agree on the major premises and values that necessarily underlie the choice of a particular strategy. Thus, they talk past each other. Furthermore, the discussion centers on which targetting doctrine is superior, without discussing the general context in which the doctrine would be adopted or the more complicated situation caused by a switch from one strategy to another. One could conceive of doctrines with equivilent utilities, but where the switch from one to the other would, of itself, be destabilizing. This paper will examine the advisability of a switch in targetting doctrine, given certain major premises and the present historical context.

Deterrent Stability

One major premise or value that can be agreed upon is

that no switch in doctrine should upset deterrent stability. A switch in doctrine can adversely affect deterrent stability in three ways: 1) the affect on respective values of first and second strike; 2) the appearance of a potential first strike or a doctrine for political advantage; and 3) the possibility of an arms race.[4]

It has been generally agreed that an increase in either side's value of first strike and decrease in their value of second strike are destabilizing.[5] A switch in doctrine to counterforce or some variant would be destabilizing if the Soviets see such a posture as less of a sanction than retaliatory assured destruction, resulting in an increase in their value of first strike.[6] Thus, depending on the Soviet view of an American switch in doctrine, such a switch could be destabilizing.

It has been generally argued that a switch to counterforce would look like a first strike doctrine to the Soviets.[7] For this reason, Russett has argued for a countercombatant retaliatory posture that would specifically exempt Russian missiles as targets.[8] Yet, Russett's doctrine can also be seen as a potential counterforce doctrine.[9] Interestingly enough, neither counterforce nor countercombatant doctrine is a first strike doctrine. But if a switch to such a doctrine brings on fears that the United States is indeed going for a first strike capability, or intends to put the Soviets in a politically disadvantageous position, then it would indeed be destabilizing.[10] This was certainly the case with the short-lived McNamara switch to counterforce.[11]

Such was also the case with the Soviet deployment of the Galosh ABM around Moscow. This act was in itself not destabilizing, but the fear that the Soviets would extend and expand the system contributed to the American decision to go ahead with MIRV.[12] Similarly, counterforce or countercombatant might be seen as destabilizing by the Soviets because of the requirements for better intelligence and greater targetting accuracy.[13] Once again, depending on the Soviet perception of an American switch in doctrine, such a switch could be destabilizing.

The switch to counterforce would also be destabilizing if it led to an arms race.[14] This danger is particularly acute in the post-SALT strategic situation. The SALT Agreement on offensive weapons places an interim ceiling on such missles. It is clear that the present situation is quite stable, and would not be affected by even a major increase in the number of either side's offensive missiles.[15] But SALT is vulnerable to a qualitative arms race, for such changes are not prohibited.[16] A switch to counterforce would particularly be vulnerable to a qualitative arms race, for it is a doctrine that requires technological advances in accuracy. Again the Russian response is central in determining the implication of a switch in doctrine.

It can therefore be concluded that at the worst, a switch to counterforce doctrine would be destabilizing; at the very best, it would not be any more stabilizing than the present doctrine. Which it would be depends on the Russian perception

and response. Therefore, as a unilaterally enunciated doctrine that can be adopted without concern for the Russian response, counterforce would very likely be destabilizing, for the Russian response is critical. This conclusion is strengthened by looking at the developments in Soviet strategic doctrine and SALT.

Soviet strategic doctrine has never been clearly articulated, it has always been inferred from political statements and weapon deployments. Thus there is little agreement on Soviet doctrine in the 1960s. Some have inferred that Soviet doctrine contained elements of counterforce and would thus have been amenable to a counterforce strategy by the United States.[17] They explain the Soviet denunciation of McNamara's counterforce doctrine as due to Soviet technological backwardness that made such a doctrine technically feasible for them only in the middle 1960s.[18] Others have inferred that Soviet doctrine was countercity, and stressing the finality of any nuclear war.[19] Whatever the inference of Soviet strategic doctrine, it is clear that the Soviets were very enamored with defensive ABM systems. American strategic analysts saw city oriented ABMs as destabilizing in depriving the enemy of one's population as hostage for retaliation. The Soviets denied the destabilizing nature of ABM systems. Premier Kosygin remarked at a press conference in London on February 10, 1967:

> What weapons should be regarded as a factor making for tension -- offensive or defensive? I believe that the defensive systems, which prevent attack, are not the cause of the arms race, but constitute a factor preventing the death of people.[20]

Thus, the Soviets did not fully accept the American criteria for mutual deterrence. To the extent that the Soviets did not accept American strategic thinking, they were often seen in Washington as primitive and backward. Many attempts were made to socialize the Russians in strategic thinking.[21] Johnson and McNamara desired early negotiations to end deployment of ABM systems. When such attempts failed, they pushed for an American ABM equivalent, but one designed to protect missile installations and therefore not to be destabilizing.[22]

By the middle of the SALT discussions, it became clear that the American strategic thinkers had been successful in their attempts to socialize the Russians.[23] In fact, the Russians turned the Americans' own arguments against them and argued for a comprehensive agreement on defensive systems with a separate interim agreement on offensive weapons. The American position favored a comprehensive offensive and defensive agreement. The Americans compromised, and the SALT Agreement contains an indefinite permanent agreement strictly limiting ABM systems. There are limits on the number of sites, on the number of missiles, on the radar, and on future technological developments.[24]

The SALT Agreement thus enshrines mutual assured destruction and depreciates any emphasis on defense.[25] It strictly limits ABMs but only puts an interim ceiling on offensive systems. Each side thus assures the other of its population as hostage. The SALT Agreement marks the Soviet

acceptance of American criteria of mutual deterrence based on assured destruction, and recent Soviet remarks ape American statements on deterrence.[26]

After such a long and difficult task of socializing the Russians into the American view of deterrence, a unilateral shift in American doctrine would be extremely destabilizing.[27] While this says nothing the desirability of counterforce as a targetting doctrine, it seems clear that any move to such a doctrine would have to be done in conjunction with the Russians. For this goal, SALT could provide the required vehicle for beginning a dialogue on targetting strategy.[28]

Ex Ante and Ex Post Deterrence

There has been much discussion of rationality in deterrence thinking.[29] Many have pointed out that deterrence based on a countercity assured destruction retaliatory threat is irrational.[30] All things being equal, one would want to threaten the maximum in retailiation to get the most deterrent benefit. Yet, it would be irrational to go through with this threat.[31] If the Soviets strike the U.S. first in a counterforce attack, for the United States to retaliate against Soviet cities in a spasmodic response would give the Soviets the greatest incentive to use their remaining missiles against American cities. The result would be an irrational orgy of destruction. Further, such a posture only conceives of deterrence prior to any war. Once the firing begins, all the stops are pulled out, and no consideration

is given to the possibility of continuing deterrence into the war. A spate of recent literature on war termination has pointed out that most wars have ended prior to the total destruction of either adversary.[32] Many have pointed out that after the fact (ex post), a more rational strategy would be one that extended deterrence into the war, that attempted a negotiated settlement by bargaining, and that gave one's enemy continued incentives not to strike one's cities.[33]

Thus, there appears to be a tension between ex ante (before the fact) and ex post deterrence, or between deterrence and defense.[34] One wants to threaten the maximum sanction before the fact, but it is irrational to go through with it after the fact. There are two potential solutions: raise the ex post deterrent credibility, or lower the ex ante threat. Some have suggested a "doomsday machine" that would trigger automatic retaliation, thus assuring one's enemy that after the fact one would go through with one's prior threat. The other solution is to threaten a lesser sanction before the fact, thereby raising the credibility that one will go through with it.[35] The latter is the solution suggested by the proponents of counterforce. The problem of this is that the lesser sanction may lead to greater provocations by one's enemies, and the increased capability and credibility of less than all out response will assure the threatened response.[36] The end result would be to make war more likely, which was a major criticism of McNamara's enunciation of counterforce in 1962.[37]

Thus, one can conclude that the flexibility of alternative targets and a retargetting capability are desirable aspects of counterforce, especially for ex post deterrence. It is less clear that it is desirable to have counterforce as an announced doctrine before the fact. Indeed, the optimum strategy appears to be a switching one.[38] Russett, having forseen such a counter-argument, points out the unlikelihood of keeping secret the intention not to go through with one's announced threat.[39] Yet this would not be necessary. One possible strategy would be to continue the threat of countercity assured destruction, but to obtain and announce the capability of limited strategic war without announcing the targets (cities or military installations).[40]

This conclusion seems to be partially strengthened by the propect of nuclear proliferation. It appears inevitable that further nuclear proliferation will require various targetting plans and a retargetting capability. As for announced doctrine in a multipolar nuclear world, this becomes even more problematic.

Targetting Doctrine under Strategic Multipolarity

When strategic multipolarity catches up with the already existing political multipolarity, the question of strategic doctrine will arise anew, but will be more difficult to answer because of the imponderables of nuclear proliferation.[41]

The future process of horizontal proliferation is not clear. New members of the nuclear club are likely to come in pairs: Israel and Egypt, India and Pakistan. Will such

new members go for an all-azimuth capability or will they focus their capability only against their local rivals? The answer is uncertain but the evidence is not encouraging. Of the present three minor nuclear powers, only Britain has specified one enemy (Soviet Union), while France and China have declared an all-azimuth strategy. Further, whether or not they desire an all-azimuth capability, new nuclear powers are likely to have so few missiles that they would not be able to adopt a counterforce second strike posture, or even a counterforce first strike posture.[42] And in this context of non-reciprocation, it is not clear that the U.S. and the U.S.S.R. would want to announce a counterforce doctrine, especially since such a posture would require targetting added numbers of missiles to deter minor states.

The future of vertical proliferation is also not clear for the post-SALT period. In one respect, by closing off the ABM option, the superpowers have limited vertical proliferation along these lines. Yet, by allowing technological improvements in offensive systems, they have left the door open for further verticle proliferation in existing systems.[43] Such an increasing technological gap between major and minor nuclear powers does not increase the likelihood of the adoption of counterforce targetting. First, to have two different targetting strategies, one for major states and one for minor states, would be politically costly. Second, counterforce targetting would require the expenditure of a larger number of missles than assured destruction. The

major powers would not be able to afford counterforce targetting vis-a-vis each other if a nuclear exchange between them might leave either power unable to deter remaining nuclear powers.[44] And to deter all potential nuclear rivals with a counterforce doctrine might require many more missiles than either superpower presently possesses (thus leading to an arms race), and would be a luxury given the likely non-reciprocation of minor nuclear powers.

Yet, one can conceive of contingencies and scenarios for which countercity targetting does not appear feasible. In a multipolar nuclear world the possibility exists of anonymous delivery.[45] In such a case, the proper deterrent doctrine is not clear. Should one retaliate against all the existing nuclear powers, or retaliate at random, or not retaliate at all? The solution is not clear, but the problem represents an attack on the notion of deterrence by threatened reprisal, and a switch to counterforce may increase the attractiveness of retaliation, but does not solve the doctrinal problem of who to strike.[46]

Conclusion

The possibility presently exists of divorcing, for the first time, two notions that have previously been inexorably linked: strategic weapons and mass destruction. This possibility is indeed intriguing, especially given the repugnancy of countercity assured destruction.[47] But is such a switch in doctrine desirable, even with Soviet concurrence, if it will result in a greater recourse to the use of strategic weapons?

Perhaps, in a multipolar nuclear context, the answer is yes, for theoreticians argue that war is more likely in multipolar systems than in bipolar systems anyway.[48] Thus, the added increase in war likelihood associated with a switch in doctrine may be worth the damage and destruction that might be avoided. Even so, the problems raised in this paper are formidable ones for counterforce proponents to deal with.

NOTES

I would like to thank Professors Harry Gelber, Richard Rosecrance, Bruce Russett, and Paul Wolfowitz, though they are exculpated from any responsibility.

1. For a good conceptual review of the debate, see Michael D. Intriligator, "The Debate Over Missile Strategy: Targets and Rates of Fire," Orbis, Winter 1968, and Michael D. Intriligator, Strategy in a Missilie War: Targets and Rates of Fire (Los Angeles: UCLA Security Studies Paper #10, 1967).
2. In the 1950s there was immediate criticism of Dulles' policy of massive retaliation. When it was resurrected as assured destruction, there was very little criticism. Recently, there have been a number of attacks on assured destruction, with renewed suggestions for flexible controlled response with counterforce or countercombatant targetting, see Martin J. Bailey, "Deterrence, Assured Destruction, and Defense," Orbis, Fall 1972; Lewis Bohn, "Reconsidering Nuclear Deterrence," Current, February 1973; Arthur Lee Burns, "Ethics and Deterrence: A Nuclear Balance Without Hostage Cities," Adelphi Papers, July 1970; Fred Charles Ikle, Can Nuclear Deterrence Last Out the Century? (Southern California Arms Control and Foreign Policy Seminar, January 1973); Michael M. May, "Some Advantages of a Counterforce Deterrence," Orbis, Summer 1970; and Bruce M. Russett, "A Countercombatant Deterrent?: Feasibility, Morality, and

Arms Control," in Sam C. Sarkesian, editor, The Military-Industrial Complex: A Reassessment (Los Angeles: Sage Publications, 1972).

3. See Michael J. Brenner, "The Theorist as Actor, the Actor as Theorist: Strategy in the Nixon Administration," Stanford Journal of International Studies, Spring 1972; Richard M. Nixon, U.S. Foreign Policy for the 1970's: A New Strategy for Peace, The White House, February 18, 1970, U.S. Foreign Policy for the 1970's: Building for Peace, The White House, February 25, 1971, and U.S. Foreign Policy for the 1970's: The Emerging Structure of Peace, The White House, February 9, 1972; and U.S., Congress, House, Committee on Foreign Affairs, United States Foreign Policy for the 1970's: A Comparison of the President's 1970 and 1971 Foreign Policy Reports to Congress, 92d Congress, 1971.

4. It should be noted that the conclusions reached in the paper are in part biased by the choice of these three criteria. One can conceive of a wholly different formulation of deterrence where there would be completely different criteria, and then, one could argue that a switch in strategic doctrine would not be destabilizing if done simultaneously with a switch in the entire conceptual formulation of deterrence. This however seems quite unlikely, especially since such an alternative formulation is not at hand. Further, the proponents of changing doctrine themselves implicitly accept the present formulation, and would thus accept these three criteria.

5. For an early quantitative formulation of the factors affecting deterrent stability, see Daniel Ellsburg, The Crude Analysis of Strategic Choice (Santa Monica: California: The Rand Corporation, P-2183, December 15, 1960). For more explicit use of this formulation, see Richard Rosecrance, International Relations: Peace or War? (New York: McGraw-Hill Book Co., 1973), pp. 242-251.
6. Richard Rosecrance, "Aspects of the Theory of Nuclear Deterrence," paper delivered at the Sixty-Fifth Annual Meeting of the American Political Science Association, New York City, 1969.
7. Among others, see Ibid. and J. David Singer, Deterrence, Arms Control, and Disarmament (Columbus, Ohio: Ohio State University Press, 1962), pp. 68-77.
8. Originally, Russett did include offensive missiles as possible targets, see Russett, op. cit., pp. 218-219. In more recent discussions he has specifically exempted offensive missiles as targets so that countercombatant would not become counterforce.
9. See Robert C. Johansen, "The Politics of Arms Control: An Analysis of Unilateral Initiatives and Countercombatant Strategy," paper discussed at the Annual Meeting of the International Studies Association, New York City, 1973.
10. Charles M. Herzfeld, "Innovation and Restraint," Adelphi Papers, February 1970, p. 44, argues the difference between a first strike capability and first strike bonus, where the side going first would not win but would suffer less.

Johan Jorgen Holst, "Parity, Superiority or Sufficiency?," Adelphi Papers, February 1970, p. 35, has similarly argued, differentiating between "stark superiority" and relative superiority. For a discussion of how countercombatant might be destabilizing in this sense, see Johansen, op. cit. Brent Scowcroft, "Deterrence and Strategic Superiority," Orbis, Summer 1969, has argued that superiority is irrelevant to the assurred destruction element of deterrence. Colin S. Gray, "Strategic 'Superiority' in Superpower Relations," Military Review, December 1971, and Jerome H. Kahan, "Stable Deterrence: A Strategic Policy for the 1970's," Orbis, Summer 1971, have suggested a political utility of superiority short of a first strike capability. Benjamin S. Lambeth, "Deterrence in the MIRV Era," World Politics, January 1972, disagrees and argues the disutility of superiority. However, Michael May, op. cit., argues for counterforce as a strategy to achieve military victory (of sorts).

11. For a general treatment, see George H. Quester, Nuclear Diplomacy (New York: Dunellen, 1970). For the most recent analysis of the McNamara doctrine, see Peter C. Wagstaff, "An Analysis of Cities-Avoidance Theory," Stanford Journal of International Studies, Spring 1972. The best discussion is to be found in H. Moulton, "The McNamara General War Strategy," Orbis, Summer 1964. The most trenchant contemporary critique is Michael Brower, "Controlled Thermonuclear War," The New Republic, July 30, 1962. For a sympathetic and

detailed journalistic account, see Richard Fryklund, 100 Million Lives (New York: Macmillan, 1962). For other useful treatments, see Morton H. Halperin, "The 'No-Cities' Doctrine," The New Republic, October 8, 1962, and Limited War in the Nuclear Age (New York: Wiley, 1963); William V. O'Brien, "The Fate of Counterforce," Commonweal, May 17, 1963; Robert E. Osgood, "Nuclear Arms: Uses and Limits," The New Republic, September 10, 1962; Watanabe Seiki, "Counterforce Strategy," Japan Quarterly, October-December 1962; and the various references cited in Wagstaff. Also useful is Hans J. Morgenthau, "The Illogic of Counterforce," in Robert J. Art and Kenneth N. Waltz, editors, The Use of Force (Boston: Little, Brown & Co., 1971). For his own views, see Robert S. McNamara, "The 'No-Cities' Doctrine," speech delivered at the University of Michigan Commencement Exercises of 1962, reprinted in Art and Waltz, and "The Damage-Limiting Strategy," speech delivered to the Economic Club of New York in 1963, reprinted in Arthur I. Waskow, editor, The Debate Over Thermonuclear Strategy (Boston: D.C. Heath, 1965).

12. Rosecrance, "Aspects," op. cit.

13. The technological requirements are discussed by May, op. cit., and Russett, op. cit. For other discussions of technical capabilities and counterforce targetting, see Herzfeld, op. cit., p. 47, and D.G. Hoag, "Ballistic Missile Guidance," in B.T. Feld, T. Greenwood, G.W. Rathjens, and S. Weinberg, editors, Impact of New Technologies on the Arms Race

(Cambridge, Mass.: MIT Press, 1971), pp. 103-105.

14. For countercombatant's similar possibility, see Johansen, op. cit. For the most recent discussions of arms race dynamics, see Colin S. Gray, "Action and Reaction in the Nuclear Arms Race," Military Review, August 1971, "The Arms Race Phenomenon," World Politics, October 1971, and "The Arms Race is About Politics," Foreign Policy, Winter 1972-1973.

15. For a quantitative analysis reaching this conclusion, see William H. Baugh, "An Operations Analysis of Systemic Stability in Ballistic Missile Systems: The U.S. - U.S.S.R. System After SALT I," paper delivered at the Annual Meeting of the International Studies Association, New York City, 1973. The same conclusion has been reached by Joseph I. Coffey, Deterrence in the 1970s (University of Denver, Monograph Series in World Affairs, 1970-71); Kahan, op. cit.; Lambeth, op. cit.; and Herbert Scoville and Robert Osborn, Missile Madness (Boston: Houghton Mifflin, 1970). The best recent theoretical discussion of strategic stability is Thomas Brown, Models of Strategic Stability (Southern California Arms Control and Foreign Policy Seminar, August 1971).

16. For a pre-SALT I discussion of the problem of technical innovation, see Herzfeld, op. cit. For post-SALT I discussions that make this specific point, see Michael M. May, Strategic Arms Technology and Doctrine Under Arms Limitation Agreements (Princeton, New Jersey: Princeton University,

Center of International Studies, Research Monograph No. 37, October 1972), and Scoville's discussion in "Strategic Forum: the SALT Agreements," Survival, September/October 1972.

17. Russett, op. cit., p. 24. David Holloway, "Strategic Concepts and Soviet Policy," Survival, November 1971, argues that Soviet strategy was a war waging one as well as a war deterrent one. Holst, op. cit., has argued that that Soviet targetting was mixed: counterforce, counter-industry, and counter-administration, but not explicitly counter-city. Stefan T. Possony and J.E. Pournelle, The Strategy of Technology (Cambridge, Mass.: Dunellen, 1970), have argued that Soviet policy was one of assured survival, and combined defense and counterforce.

18. See Michael M. May, Strategic Arms, op. cit., and Johan Jorgen Holst, Comparative U.S. and Soviet Deployments, Doctrines, and Arms Limitation (Chicago: University of Chicago, Center for Policy Study, 1971).

19. Roman Kolkowicz, "Strategic Parity and Beyond: Soviet Perspectives," World Politics, April 1971, argues that U.S.S.R. policy in the early 1960s was one of massive retaliation. Ciro Elliott Zoppo, "Nuclear Technology, Multipolarity, and International Stability," World Politics, July 1966, points out that Soviet doctrine rejected the controlled use of strategic forces and stresses the all out nature of nuclear war. O'Brien, op. cit., points out that Khruschev rejected McNamara's "monstrous" proposal on "rules

of conducting a nuclear war." The problem was not to limit nuclear war, but "how to eliminate the very possibility of nuclear war." For the difficulty in delineating Soviet doctrine, see George H. Quester, "On the Identification of Real and Pretended Communist Military Doctrine," Journal of Conflict Resolution, June 1966.

20. Quoted in Johan J. Holst and William Schneider Jr., editors, Why ABM (Elmsford, N.Y.: Pergamon Press, 1969), p. 175. D.G. Brennan, "The Case for Missile Defense," Foreign Affairs, April 1969, p. 446, makes the argument that Soviet policy has generally favored defense.

21. Brennan, op. cit., makes this point most forcefully. Annual Pugwash meetings were an especially good vehicle to educate Soviet strategists and scientists.

22. For the most recent discussion of the American ABM decision, see Ernest J. Yanarella, "Safeguard, SALT, and Beyond," paper presented at the Annual Meeting of the International Studies Association, New York City, 1973, and the sources cited therein. For the difference in effect on stability between missile and city-oriented ABMs, see Rosecrance, International Relations, op. cit., pp. 242-251.

23. Recently, Professor Russett suggested to me that the Russians may not necessarily have been socialized by the United States on the issue of strategic doctrine. Rather, the Russians independently decided to give up on ABM development because they saw the United States deploying such a system, and realized that the United States was going to deploy a

technically superior ABM system. For this reason, they independently arrived at the desire for an end to ABMs. While this argument does counter my socialization argument, it presents the proponents of a switch in doctrine with an even bigger problem. For then, one could argue that the Soviets would never go along with a switch to a doctrine that placed a premium on technical capabilities where they would once again be inferior.

24. This is pointed out quite clearly by Yanarella, op. cit.

25. For a discussion of the difference between deterrence and defense, see Glenn H. Snyder, Deterrence and Defense (Princeton, New Jersey: Princeton University Press, 1961). One man who has continually argued for defense, and in the process has removed himself from the mainstream of American strategic thinking, has been Donald Brennan, see Brennan, op. cit., in "Strategic Forum: the SALT Agreements," Survival, September/October 1972, and in Strategic Arms Limitation Agreements, Hearings before the Committee on Foreign Relations, United States Senate, 92d Congress, 1972. Reading the testimony, with the exception of Brennan's, before the Committee on Foreign Relations, one can sense the glee over the enshrinement of mutual assured destruction. For pre-SALT I affirmations of mutual assured destruction, see Coffey, op. cit.; Kahan, op. cit., and "Limited Agreements and Long-Term Stability: A Positive View Toward SALT," Stanford Journal of International Studies, SPring 1972; George W. Rathjens, The Future of the Strategic Arms Race: Options for the 1970's

(New York: Carnegie Endowment for International Peace, 1969); and Scowcroft, op. cit.

26. See May, Strategic Arms, op. cit.

27. May, "Some Advantages," op. cit., a proponent of a return to counterforce targetting, has recognized this, see May, Strategic Arms, op. cit. Kahan, "Limited," op. cit., has also made the point that SALT establishes a bilateral framework within which lies the best possibility for maintaining a stable and secure American-Soviet relationship.

28. This is strengthened by the realization that the Russians can foil a countercombatant posture by hardening their military installations or moving them closer to cities, see Russett, op. cit., p. 225.

29. See Philip Green, Deadly Logic (New York: Schocken, 1966); Stephen Maxwell, "Rationality in Deterrence," Adelphi Papers, August 1968; and Thomas C. Schelling, Arms and Influence (New Haven: Yale University Press, 1966).
I am indebted to Paul Wolfowitz for making available to me an unpublished paper of his discussing rationality in deterrence thinking.

30. Among many others, see Richard Rosecrance, editor, The Future of the International Strategic System (San Francisco: Chandler Publishing, 1972), ch. 8, and T.C. Schelling, "Controlled Response and Strategic Warfare," Adelphi Papers, June 1965. See also all the references by Brennan in footnote #25. Brennan has pointed out that mutual assured destruction is indeed a MAD policy.

31. So very very many people have pointed this out, that one justification that has arisen is the rationality of irrationality in deterrence. Even so, strategists have tried to conceive of other strategies; see the fifteen central war strategies of Herman Kahn, editor, A Paradigm for the 1965-1975 Strategic Debate (Croton-on-Hudson, New York: Hudson Institute, 1963).

32. See William T.R. Fox, special editor, How Wars End, The Annals of the American Academy of Political and Social Science, November 1970; Fred Charles Ikle, Every War Must End (New York: Columbia University Press, 1971); Herman Kahn, William Pfaff, and Edmund Stillman, War Termination Issues and Concepts (Croton-on-Hudson, New York: Hudson Institute, HI-921/3-RR, June 1, 1968); and Paul Kecskemeti, Strategic Surrender (Stanford, California: Stanford University Press, 1958).

33. Such a more rational strategy has been discussed for at least the past fifteen years, and could take numerous forms. There are essentially (without considering the possibility of no retaliation) two rational war waging strategies. One strategy is counterforce, countercombatant, no-cities, or city-avoidence. This strategy would assure retaliation (in massive or controlled rates of fire) against the opponent's missiles or military installations, etc., but not against his cities. The other strategy is one of limited strategic retaliation in a controlled fashion, but without any assurance as to probable targets. In this

strategy one would stage demonstration strikes (perhaps of an increasing escalatory nature) against cities or missiles or military installations. There would be no assurance to the enemy that cities would be spared, indeed quite the opposite, cities would be held as hostage and could be struck at any time. For a delineation of the difference between these two strategies see either piece by Schelling, op. cit., and Wagstaff, op. cit. For discussions of these strategies, see Fryklund, op. cit.; Morton H. Halperin, "'No-Cities,'" op. cit., Limited War, op. cit., Contemporary Military Strategy (Boston: Little, Brown & Co., 1967), and Defense Strategy for the Seventies (Boston: Little, Brown & Co., 1971); Y. Harkabi, Nuclear War and Nuclear Peace (Jerusalem: Israel Program for Scientific Translations, 1966); Morton A. Kaplan, The Strategy of Limited Retaliation (Princeton, New Jersey: Princeton University, Center for International Studies, Policy Memorandum No. 19, April 19, 1959); Klaus Knorr and Thornton Read, editors, Limited Strategic War (New York: Praeger, 1962); Moulton, op. cit.; and Paul Ramsey, The Limits of Nuclear War (New York: The Council on Religion and International Affairs, 1963). One should of course consult the most prolific scenario writer, see among his many works, Herman Kahn, On Thermonuclear War (Princeton, New Jersey: Princeton University Press, 1960), and Paradigm, op. cit.

34. This has been pointed out by numerous authors, and is also referred to as the difference between a war deterrent doctrine and a war waging doctrine.

35. Kahn, On Thermonuclear, op. cit., was one to suggest the doomsday machine. Rosecrance, The Future, op. cit., ch. 8, has discussed the possibilities.

36. One can think of an imperfect analogy to recent foreign policy. Dulles enunciated massive retaliation as a foreign policy doctrine. He was immediately attacked for stating a doctrine that was not credible, especially when the Soviets obtained the capability to strike the U.S. directly. His critics argued for a scaled down deterrent threat, one that stressed flexible controlled response, and in the Kennedy years American conventional capabilities were built up. Yet, the Dulles years saw few Russian provocations and no American war involvement. Dulles and Eisenhower threatened a great deal and talked in lofty moral terms, but in the crunch did not intervene in Indochina and Hungary. On the other hand, the Kennedy years of flexible response saw increased Russian provocations, with the assured American flexible response that ended in interventions and war involvement and a period of great tension. While one cannot argue that a shift to flexible response caused increased Russian provocations, it was certainly met by increased Russian provocations, and certainly resulted in American intervention that went through with the ex ante threat in flexible response fashion.

Brown's, op. cit., pp. 47-49, model indicates "that the net effect of increased flexiblility is to decrease the probability of a nuclear disaster, provided that the 'aggressive-

ness' of each side remains constant." However, he points out that "the gain in stability which results from an increase in flexibility can easily be wiped out by an increase in aggressiveness."

37. Brower, op. cit., p. 15: "The more we prepare to try to win [or to fight] a war, instead of to forestall it, the more likely we are to have to fight it." The addition in the above quotation is mine, but I think it is a correct inference from the Brower article.

38. See both of the pieces by Intriligator, op. cit. Note that Intriligator finds a switching strategy to be an optimum one during the war. What is even more interesting, but not pointed out by Intriligator, is that his switching strategy is the optimum one irregardless of what the announced doctrine was prior to the war.

39. Russett, op. cit., pp. 234-235.

40. Note that this is the limited strategic retaliation option, and not the counterforce option. This approach attempts to get around the ex ante versus ex post problem by threatening a great deal before the fact, and going through with it after the fact but in a controlled and limited fashion that hopes for an end to the war prior to using all of one's missiles. George H. Quester, Deterrence Before Hiroshima (New York: Wiley, 1966), argues that such a strategy of restraint was attempted early in World War II and he analyzes its failure and eventual escalation. John R. Raser and Wayman J. Crow, "A Simulation Study of Deterrence Theories," in Proceedings

of the International Peace Research Association Inaugural Conference (Netherlands: Royal VanGorcum Ltd., 1966), did a simulation of the stability effects of the acquisition by one power of the capacity to delay fire, though an imperfect analogy at best, it provides some evidence that a switch to a limited strategic war doctrine would have mixed effects on stability.

41. For wideranging discussions of strategic doctrine in a context of strategic proliferation, see the essays in Rosecrance, The Future, op. cit. One should also look at Herman Kahn, "Nuclear Proliferation and Rules of Retaliation," The Yale Law Journal, November 1966, and Herman Kahn and Carl Dibble, "Criteria for Long-Range Nuclear Control Policies," California Law Review, May 1967.

42. See the Hoag essay in Rosecrance, The Future, op. cit., though some of the other essays are also relevant on these points.

This point of the non-reciprocation of minor nuclear powers to an American switch to counterforce targetting, provides an insight to the probable effects of such a switch on our NATO allies (specifically Britain and France).

A switch to counterforce might be seen, at first glance, to strengthen our commitment to defend Western Europe. After all, counterforce targetting would allow the U.S. to be the first to use nuclear weapons in response to a Russian attack on Western Europe. And, moreover, this threat would be credible for the possibility would exist that the Soviets would reciprocate and spare American cities. As long as the

U.S. had a countercity targetting doctrine, an American first use of nuclear weapons to defend Europe is not credible since the result would be the Russian destruction of American cities.

m However, a switch to counterforce would also be destabilizing. After all, Britain and France do not have enough nuclear weapons (or the targetting accuracy) to afford a counterforce doctrine. Their doctrine has been a countercity one. Thus, in the event of war in Europe, they would undercut the American posture ny striking Russian cities, and the Russians, if unable to distinguish the firing source, would retaliate against American cities. Thus, an American switch to counterforce might be seen as an attempt to undermine the European deterrent. This was exactly the case with McNamara's doctrine which was first announced at a NATO meeting. McNamara intended the counterforce doctrine to undermine the European deterrent (see McNamara, "'No-Cities,'" op. cit.), and his announcement was clearly read that way, and was probably another factor leading to strained American-French relations late in 1962 and through 1963. Not only would the American switch undermine the European deterrent, but the European non-reciprocation would strain the alliance and would undercut the American counterforce posture.

43. MIRV would be one example.

44. A discussion of the contemporary possibilities, given the existing tripolarity, is to be found in Harry G. Gelber, "The Impact of Chinese ICBM's on Strategic Deterrence,"

Orbis, Summer 1969. It is interesting to note that Gelber's suggested solution of ABM deployment has been precluded by the SALT I agreement. For more theoretical discussions ("dilemma of the victor's inheritance"), see Rosecrance, The Future, op. cit., ch. 8. Quester's essay in the same volume also deals with this problem, see ch. 4.

45. See Rosecrance, The Future, op. cit., ch. 8, and International Relations, op. cit., pp. 285-287. It should be noted that the United States and the Soviet Union have signed an agreement to insure against this possibility occurring between themselves, see "Measures to Reduce the Risk of Nuclear War Outbreak," agreement signed at Washington on September 30, 1971, in U.S. Department of State, United States Treaties and Other International Agreements, vol. 22, pt. 2 (Washington, D.C.: U.S. Government Printing Office, 1971). The agreement calls for improvement of existing arrangements to guard against accidental or unauthorized firings, for notification in case of such firings, for notification in the case of detection of unidentified objects, and for notification of missile launchings that travel beyond one's territory. This agreement has provisions with potenially far reaching implications, as the possibility of installation of self-destruct devices on each missile. I am indebted to Professor Harry Gelber for pointing this out to me.

46. As a result many have suggested looking at the broader aspects of deterrence, and focusing on the flip side of deterrence, namely deterrence by reward instead of punish-

ment, or positive sanctions, see David A. Baldwin, "Thinking About Threats," Journal of Conflict Resolution, March 1971, and Rosecrance, The Future, op. cit., ch. 11. All sorts of possibilities then open up in terms of interdependence. See the short discussion of strategic interdependence in Richard Rosecrance and Arthur Stein, "Interdependence: Myth or Reality?" World Politics, October 1973, forthcoming.

47. No one has more clearly shown the absurdity of mutual assured destruction than Donald Brennan. He has suggested that mutual assured destruction could be acheived quite cheaply by a Soviet-American agreement to mine each other's cities, see Brennan in "Strategic Forum," op. cit.

48. See Richard N. Rosecrance, "Bipolarity, Multipolarity, and the Future," Journal of Conflict Resolution, September 1966.

CORNELL UNIVERSITY

Peace Studies Program Occasional Papers

1. F. A. Long, "Science and the Military"
2. Ronald Goodman, Jeffrey Hart, and Richard Rosecrance, "Testing International Theory: Methods and Data in a Situational Analysis of International Politics"
3. Ian Smart, "MBFR Assailed: A Critical View of the Proposed Negotiation on Mutual and Balanced Force Reductions in Europe"
4. Arthur Stein, "Strategic Doctrine for a Post-SALT World"

Peace Studies Program Reprint Series

1. Michael J. Brenner, "The Schizophrenic International System"
2. George H. Quester, "Missiles in Cuba, 1970"
3. Michael J. Brenner, "Strategic Interdependence and the Politics of Inertia: Paradoxes of European Defense Cooperation"
4. George H. Quester, "Some Conceptual Problems in Nuclear Proliferation"
5. Brian Healy and Arthur Stein, "The Balance of Power in International History: Theory and Reality"
6. Richard Rosecrance and Arthur Stein, "Interdependence: Myth or Reality?"

Peace Studies Program
170 Uris Hall
Cornell University
Ithaca, New York 14850

Guernica (1937) by Pablo Picasso
Extended Loan from the artist to The Museum of Modern Art, New York City, N. Y.